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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/447,472	11/23/1999	JAMES B. ARMSTRONG	533/049	3863	
26291	7590 07/09/2004		EXAMINER		
•	ATTERSON & SHERIDA	LAMBRECHT, CHRISTOPHER M			
595 SHREW FIRST FLOO	'SBURY AVE, STE 100 OR		ART UNIT	PAPER NUMBER	
	JRY, NJ 07702		2611	, .	
			DATE MAILED: 07/09/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.

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		Application	on No.	Applicant(s)		
		09/447,47	09/447,472 ARMSTRON			
	Office Action Summary	Examiner		Art Unit		
		· · · · · · · · · · · · · · · · · · ·	er M. Lambrecht	2611		
7 Period for F	The MAILING DATE of this commun Reply	ication appears on the	cover sheet with the c	orrespondence address		
THE MA - Extension after SIX - If the per - If NO per - Failure to Any reply	RTENED STATUTORY PERIOD F SILING DATE OF THIS COMMUN as of time may be available under the provisions (6) MONTHS from the mailing date of this commit iod for reply specified above is less than thirty (3) iod for reply is specified above, the maximum at the reply within the set or extended period for reply or received by the Office later than three months a atent term adjustment. See 37 CFR 1.704(b).	ICATION. s of 37 CFR 1.136(a). In no evenunication. s0) days, a reply within the state atutory period will apply and wire will, by statute, cause the apply.	ent, however, may a reply be timutory minimum of thirty (30) days II expire SIX (6) MONTHS from lication to become ABANDONEI	ely filed s will be considered timely. the mailing date of this communication (35 U.S.C. § 133).	on.	
Status						
1)⊠ Re	esponsive to communication(s) file	ed on <u>4/20/2004</u> .				
· · · · · ·	This action is <b>FINAL</b> . 2b) ☐ This action is non-final.					
3) <u></u> Sii	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
clo	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.					
Disposition	of Claims					
4a 5)☐ Cl 6)⊠ Cl 7)☐ Cl	aim(s) <u>1-9 and 20-24</u> is/are pendin ) Of the above claim(s) is/and aim(s) is/are allowed. aim(s) <u>1-9 and 19-24</u> is/are rejected aim(s) is/are objected to. aim(s) are subject to restrict	ed.				
Application	Papers					
10)⊠ Th Ap Re	e specification is objected to by the drawing(s) filed on 23 November oplicant may not request that any objected to be oath or declaration is objected to	er 1999 is/are: a) $\boxtimes$ accition to the drawing(s) by the correction is require	ne held in abeyance. See ed if the drawing(s) is obj	e 37 CFR 1.85(a). ected to. See 37 CFR 1.121	(d).	
Priority und	ler 35 U.S.C. § 119					
a) <u>□</u> 1. 2. 3.	knowledgment is made of a claim  All b) Some * c) None of:  Certified copies of the priority  Copies of the certified copies  application from the Internation  the attached detailed Office action	documents have bee documents have bee of the priority docume onal Bureau (PCT Rul	n received. n received in Applicati ents have been receive e 17.2(a)).	on No ed in this National Stage		
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	f References Cited (PTO-892)	770.040	4) Interview Summary Paper No(s)/Mail Da			
3) Informat	f Draftsperson's Patent Drawing Review (I ion Disclosure Statement(s) (PTO-1449 or o(s)/Mail Date			atent Application (PTO-152)		

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### **DETAILED ACTION**

## Response to Arguments

- 1. Applicant's arguments filed 20 April 2004 have been fully considered but they are not persuasive.

  On page 10, lines 6-9 of the response, Applicants' submit that none of the claims pending in the application are obvious under the provisions of 35 U.S.C. §103. In particular, on page 11, 2<sup>nd</sup> paragraph of the response, Applicants submit that the combination of Ueno and Hokanson fails to teach or suggest Applicants' invention as a whole. In particular, Applicants allege that
  - (a) neither Ueno nor Hokanson individually teach "each of said servers having a primary storage partition for storing a local portion of video assets, each of said servers having a secondary storage partition for storing at least some of a remaining portion of said video assets," as recited in claims 1 and 19 (pp. 11-12);
  - (b) the combination of Ueno and Hokanson would merely disclose a centralized database server in which content rated at a higher hierarchal level can be made available to comparatively more clients and content rated at a lower hierarchal level can be made available to comparatively fewer clients (pg. 12, paragraph 5, lines 1-5);
  - (c) the Applicants' invention provides "a decentralized server network where 'the infrequently requested video assets are divided (decentralized) amongst each of the plurality of head-ends and then stored on their respective secondary storage partitions" (pg. 12, paragraph 5, lines 5-9);
  - (d) nowhere in the cited references, either singly or in combination, is there any teaching or suggestion that each of said servers in the interactive distribution system includes both a primary storage partition and a secondary storage partition, where the primary storage partition stores a first portion of video assets (such as frequently requested video assets) and the secondary storage partition stores a remaining portion of video assets (such as infrequently requested video assets);

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(e) the combined references fail to embrace the problems that Applicants' invention solves; in particular, the problem of allowing maximum access to the video titles with minimum network cost associated with their delivery (pg. 13, paragraph 2);

(f) dependent claims 2-9 and 20-24 depend directly or indirectly from claims 1 and 19, respectively, and therefore fail to be obvious for at least the reasons set forth in the above remarks regarding claims 1 and 19.

In response to (a), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to (b), Examiner disagrees for at least the reasons set forth in the rejections of claims 1 and 19 in the non-final Office action mailed 20 January 2004. For example, the Ueno reference clearly teaches a plurality of servers (see 1001, 1005, 1006, fig. 10). Furthermore, as also cited in the rejection of claims 1 and 19 of the office action, Hokanson clearly teaches moving data between a plurality of servers (col. 9, ll. 48-51). In fact, Hokanson explicitly discloses migrating data between servers in a cluster (col. 9, ll. 51-54). Therefore, Applicants' suggestion that the combination merely (i.e., only) teaches a (i.e., one) centralized database server cannot possibly be based on the teachings of Ueno and Hokanson cited in the rejections found in the Office action.

In response to (c), that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a decentralized server network where "the infrequently requested video assets are divided (decentralized) amongst each of the plurality of head-ends and then stored on their respective secondary storage partitions") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPO2d 1057 (Fed. Cir. 1993).

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In response to (d), Ueno discloses a plurality of video servers (1001, 1005, 1006, fig. 10). In addition, Hokanson clearly teaches a server (132) with primary (high performing/high cost storage) and secondary (low performance/low cost) storage partitions (col. 9, lines 55-67) and a manager (142) for routing data between servers in response to client requests (col. 9, lines 48-54), and migrating data between storage partitions in response to a request rate traversing a threshold rate (a threshold is inherent in the distinction between content requested by a "large number of subscribers" and content that is "rarely" requested; see col. 11, lines 16-30), for the advantage of configuring the server resources to match consumer demand (col. 11, lines 30-40). That is, Hokanson teaches a server comprising primary and secondary storage partitions where the primary storage partition stores a first portion of video assets (such as frequently accessed video assets) and the secondary storage partition stores a remaining portion of video assets (such as infrequently requested video assets). Modifying each of the plurality of servers of Ueno to include primary and secondary storage partitions where the primary storage partition stores a first portion of video assets and the secondary storage partition stores a remaining portion of video assets, as taught by Hokanson, would have been obvious to one of ordinary skill in the art in view of the motivation explicitly provided by Hokanson, i.e., for the advantage of configuring the server resources to match consumer demand (col. 11, lines 30-40). Because Ueno teaches a plurality of servers (1001, 1005, 1006, fig. 10), what is therefore taught by the combination of Ueno and Hokanson is a plurality of servers coupled to respective subscriber equipment, each of said servers having a primary storage partition for storing a local portion of video assets, each of said servers having a secondary storage partition for storing at least some of a remaining portion of said video assets. Therefore, Examiner submits that the combination of Ueno and Hokanson, as set forth in the rejections of claims 1 and 19 in the Office action, teaches Applicants' claimed invention.

In response to (e), the holding of *In re Wright*, namely, that the improved pitch-measuring capability of a mechanical level should be considered in making a determination of obviousness over the

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prior art relating thereto, is not considered relevant to the present invention regarding an interactive information distribution system. However, even if it were, Hokanson discloses "In this manner, the content manager effectively tunes the video resource database to match consumer demand, without imposing undue costs. The cost/availability balance enables the content manager to make frequently requested movies more readily available (i.e., maximum access to the video titles) at the sacrifice of rendering rarely requested movies less readily available (col. 11, lines 30-40)." In addition, Hokanson discloses "This balance takes into consideration the following example of factors: cost of storing content, storage capacity, number of subscribers, server capabilities, subscriber viewing patterns, and distribution pipeline (i.e., network cost) (col. 10, lines 64-67)." That is, Hokanson clearly embraces "the problem of allowing maximum access to the video titles with minimum network cost associated with their delivery." Therefore, the combination of Ueno and Hokanson does solve the problem in the manner that Applicants' invention does. Consequently, regarding issues (d) and (e), the combination of Ueno and Hokanson teaches Applicants' claimed invention as a whole.

In response to (f), all issues raised by Applicant with respect to claims 1 and 19 have been addressed, and claims 1 and 19 have been shown to be obvious under the provision of 35 U.S.C. §103 and are therefore unpatentable. Consequently, the rejections of claims 1 and 19 are hereby maintained. Furthermore, Applicants raised no further issue with regard to claims 2-9 and 20-24, each of which depend either directly or indirectly from, respectively, claims 1 and 19. Claims 2-9 and 20-24, therefore remain obvious under 35 U.S.C. §103 for at least the reasons set forth in their respective rejections found in the non-final Office action mailed 20 January 2004. Consequently, the rejections of claims 2-9 and 20-24 are maintained.

Following are the original claims rejections (hereby maintained) found in the non-final Office action mailed 20 January 2004 (rejections of cancelled claims omitted).

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## Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-6, 19, 20, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno (Ueno et al., US006438596B1) in view of Hokanson (US006094680A).

With regard to claim 1, Ueno discloses an interactive information distribution system including a network of provider equipment (core network, 1002) and subscriber equipment (access networks, 1008 & 1009), apparatus comprising: a plurality of servers (1001, 1005, 1006) coupled to respective subscriber equipment (STUs, 1010-1013); and a manager (combination of 1003, 1004, 1007; see col. 21, lines 44-51), coupled to each of said plurality of servers. Ueno does not disclose each of said servers having a primary storage partition for storing a local portion of video assets, each of said servers having a secondary storage partition for storing at least some of a remaining portion of said video assets; and said manager routes video assets between said servers in response to video asset requests, and migrates video assets between storage partitions in response to a video asset request rate traversing a threshold rate.

Hokanson discloses a server (132) with primary (high performing/high cost storage) and secondary (low performance/low cost) storage partitions (col. 9, lines 55-67) and a manager (142) for routing data between servers in response to client requests (col. 9, lines 48-54), and migrating data

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between storage partitions in response to a request rate traversing a threshold rate (a threshold is inherent in the distinction between content requested by a "large number of subscribers" and content that is "rarely" requested; see col. 11, lines 16-30), for the advantage of configuring the server resources to match consumer demand (col. 11, lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ueno to include servers having a primary storage partition, a secondary storage partition, and a manager for routing data between servers and migrating data between storage partitions in response to client requests, as taught by Hokanson, for the advantage of configuring the server resources to match consumer demand.

With regard to claim 2, Ueno and Hokanson together disclose the claimed subject matter. In particular, Hokanson discloses said manager allocates said video assets to at least one of said plurality of servers for storage on said primary partition when said asset request rate traverses said threshold rate (a threshold is inherent in the distinction between content requested by a "large number of subscribers" and content that is "rarely" requested; see col. 11, lines 16-30); and said manager stores said video assets on said secondary storage partition when said asset request rate does not traverse said threshold rate (col. 11, lines 16-30).

With regard to claim 3, Ueno and Hokanson together disclose the claimed subject matter. In particular, Ueno discloses in response to an asset request from subscriber equipment (1010), said manager (1003, 1004, 1007) distributes to said requesting subscriber equipment (1010) the requested video asset from a server storing the requested video asset (col. 19, lines 36-44).

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With regard to claim 4, Ueno discloses a manager (1003, 1004, 1007) coupled to said plurality of servers (1001, 1005, 1006), said manager comprising: a stream session manager (server resources management control unit, 1003), for distributing streams of video assets to subscriber equipment requesting said video assets (col. 19, lines 49-53); and a content session manager (service control unit, 1007) for receiving asset requests from said stream session manager (col. 18, lines 58-63). Ueno does not disclose said manager comprises a content manager coupled to said plurality of servers for tracking, inventorying and administering said asset request rate and said threshold rate for each of said video assets;

Hokanson discloses a content manager (142) for tracking, inventorying and administering said asset request rate and said threshold rate for each of said video assets (col. 11, lines 9-23), for the advantage of configuring the server resources to match consumer demand (col. 11, lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ueno to include a content manager for tracking, inventorying and administering said asset request rate and said threshold rate, as taught by Hokanson, for the advantage of configuring the server resources to math consumer demands.

With regard to claim 5, Ueno and Hokanson together disclose the claimed subject matter. In particular, Ueno discloses an inter-server network (1002), coupled between each of said plurality of servers, for transmitting and receiving said video assets; and an access network (1008, 1009), coupled between each of said plurality of servers and said respective subscriber equipment, for receiving asset requests and transmitting video assets.

With regard to claim 6, Ueno and Hokanson together disclose the claimed subject matter. In particular, Ueno discloses an apparatus and corresponding method comprising: a server, identified by a manager (server resources management control unit, 1003) as storing a requested video asset, provides

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said requested video asset to requesting subscriber equipment via said access network (col. 19, lines 48-53).

With regard to claim 19, Ueno discloses in an interactive information distribution system comprising: a plurality of servers (1001, 1005, 1006) coupled to respective subscriber equipment (STUs, 1010-1013), said servers providing video assets to respective subscriber equipment in response to subscriber requests and a manager (combination of 1003, 1004, 1007; see col. 21, lines 44-51). Ueno does not disclose each of said servers having a primary storage partition for storing a local portion of video assets, each of said servers having a secondary storage partition for storing at least some of a remaining portion of said video assets, determining an asset request rate for each of said video assets in the server; comparing said determined asset request rate with respective threshold rates, and in the case of video assets stored on a secondary partition having a request rate exceeding said respective threshold rate, migrating said video assets stored on said secondary partition to a corresponding primary partition.

Hokanson discloses an apparatus and corresponding method comprising: a server (132) with primary (high performing/high cost storage) and secondary (low performance/low cost) storage partitions (col. 9, lines 55-67) and a manager (142) for routing data between servers in response to client requests (col. 9, lines 48-54), and migrating data between storage partitions in response to a request rate traversing a threshold rate (a threshold is inherent in the distinction between content requested by a "large number of subscribers" and content that is "rarely" requested; see col. 11, lines 16-30); said method including the steps of determining an asset request rate for each of said video assets in the server (col. 11, lines 9-10); comparing said determined asset request rate with respective threshold rates (col. 11, lines 16-20), and in the case of video assets stored on a secondary partition having a request rate exceeding said respective threshold rate, migrating said video assets stored on said secondary partition to a corresponding primary

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partition (col. 11, lines 20-30), for the advantage of configuring the server resources to match consumer demand (col. 11, lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ueno to include servers having a primary storage partition, a secondary storage partition, and a manager for routing data between servers and migrating data between storage partitions in response to client requests, as taught by Hokanson, for the advantage of configuring the server resources to match consumer demand.

With regard to claim 20, Ueno and Hokanson together disclose the claimed subject matter. In particular, Hokanson discloses an apparatus and corresponding method wherein said determined asset request rate for video assets stored in a primary storage partition being below a respective threshold rate, migrating said video assets from said primary partition to a corresponding secondary partition (a threshold is inherent in the distinction between content requested by a "large number of subscribers" and content that is "rarely" requested; see col. 11, lines 16-30).

With regard to claim 22, Ueno and Hokanson together disclose the claimed subject matter. In particular, Ueno discloses an apparatus and corresponding method comprising: a server, identified by a manager (server resources management control unit, 1003) as storing a requested video asset, provides said requested video asset to requesting subscriber equipment via said access network (col. 19, lines 48-53).

With regard to claim 23, Ueno and Hokanson together disclose the claimed subject matter. In particular, Ueno discloses said identified server is coupled directly to said requesting subscriber equipment (via channel 1019, col. 19, lines 48-53).

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4. Claims 7-9 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno and Hokanson as applied to claims 6 & 23 above, and further in view of Kikinis (US006163795A).

With regard to claims 7 and 24, Ueno and Hokanson together do not disclose said requested video asset is provided to said access network via an intervening server.

Kikinis discloses an apparatus and corresponding method providing a requested video asset (stored on a remote file server, e.g., 3, 5, or 7) to an access network (41, 43, & 45) via an intervening server (file server 1, is an intervening server in such cases where it resides between the source of a requested video asset, e.g., remote file server 3, 5, or 7, and the access network 41, 43 & 45 of the requesting subscriber), for the advantage of providing user access to a video asset not stored in the server for the access network of the requesting subscriber (file server 1) (col. 4, lines 16-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ueno and Hokanson to include a providing a requested video asset to said access network via an intervening server, as taught by Kikinis, for the advantage of providing user access to a video asset not stored in said user's local server.

With regard to claim 8, Ueno and Hokanson together disclose the claimed subject matter. In particular, Ueno discloses said stream session manager (1003) causes transmission of said video assets across said access network (1008, 1009) to said subscriber equipment (col. 19, lines 48-53).

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With regard to claim 9, Ueno discloses a plurality of servers (1001, 1005, 1006) correspondingly linked to said subscriber equipment. Ueno does not disclose said video asset is stored on said primary partition or secondary partition.

Hokanson discloses said video asset is stored on said primary storage partition or secondary storage partition (col. 10, lines 35-45), for the advantage of configuring the server to match consumer demands (col. 11, lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ueno to include said video assets stored on said primary storage partition or secondary storage partition, as taught by Hokanson, for the advantage of configuring the server to match consumer demands.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno and Hokanson as applied to claim 19 above, and further in view of Kenner (Kenner et al., US006269394B1).

With regard to claim 21, Hokanson discloses storing duplicates of said video assets on said primary storage partition (col. 10, lines 1-8). Ueno and Hokanson together do not disclose removing duplicates of said video assets.

Kenner discloses removing duplicate data from a storage partition (col. 12, lines 35-40), for the advantage of maximizing available storage capacity.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ueno and Hokanson to include removing said video assets from each of said primary storage partitions, as taught by Kenner, for the advantage of maximizing available storage capacity.

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### Conclusion

6. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

## **Certificate of Mailing**

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Typed or printed name of person signing this certificate:
Signature:

Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

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7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set

forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing

date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Christopher M. Lambrecht whose telephone number is (703) 305-8710. The examiner can

normally be reached on 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the primary examiner,

Christopher Grant can be reached on (703) 305-4755. The fax phone number for the organization where

this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Christopher M. Lambrecht Examiner

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CML

CHRIS GRANT